521, 836

PCT/JP2003/009271

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference OP1605-PCT	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/JP2003/009271	International filing date (*day/month/year*) 22 July 2003 (22.07.2003)	Priority date (*day/month/year*) 19 July 2002 (19.07.2002)
International Patent Classification (IPC) or national classification and IPC B01D 53/44, A61L 9/14, 9/16, B01D 46/26, B05B 15/12		
Applicant UEGAKI, Tateo		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 10 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

   a. ☐ *(sent to the applicant and to the International Bureau)* a total of _____ sheets, as follows:

      ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

      ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- ☒ Box No. I Basis of the report
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 02 February 2004 (02.02.2004)	Date of completion of this report 26 May 2004 (26.05.2004)
Name and mailing address of the IPEA/JP Facsimile No.	Authorized officer Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/JP2003/009271

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:

☐ international search (under Rules 12.3 and 23.1(b))

☐ publication of the international application (under Rule 12.4)

☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☒ The international application as originally filed/furnished

☐ the description:

pages _____, as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the claims:

pages _____, as originally filed/furnished

pages* _____, as amended (together with any statement) under Article 19

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the drawings:

pages _____, as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing *(specify)*: _____

☐ any table(s) related to sequence listing *(specify)*: _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing *(specify)*: _____

☐ any table(s) related to sequence listing *(specify)*: _____

* *If item 4 applies, some or all of those sheets may be marked "superseded."*

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/JP 03/09271

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	3-7, 9-11, 14-15, 17-26	YES
	Claims	1-2, 8, 12-13, 16	NO
Inventive step (IS)	Claims	5-6, 9, 11, 18-20, 22-26	YES
	Claims	1-4, 7-8, 10, 12-17, 21	NO
Industrial applicability (IA)	Claims	1-26	YES
	Claims		NO

2. Citations and explanations

Documents

Document 1: JP 61-259729 A (Shiraimatsu Shinyaku Kabushiki Kaisha), 18 November 1986

Document 2: Microfilm of the specification and drawings annexed to the written application of Japanese Utility Model Application No. 32400/1988 (Laid-open No. 137719/1989) (Kimoto Co., Ltd.), 20 September 1989

Document 3: Microfilm of the specification and drawings annexed to the written application of Japanese Utility Model Application No. 165044/1988 (Laid-open No. 86548/1990) (Toshiba Corp.), 9 July 1990

Document 4: JP 2000-5555 A (Ken'ichi Ozaki, Sadazo Hayashi, Hitoshi Masutani), 11 January 2000

Document 5: JP 6-47250 A (Trinity Industrial Corp.), 22 February 1994

Document 6: JP 6-262018 A (Turbon-Tunzini Klimatechnik GmbH), 20 September 1994

Document 7: JP 51-101041 A (Kabushiki Kaisha Osame Kogyo), 7 September 1976

Explanation

Claim 1

Claim 1 lacks novelty and does not involve an inventive step in the light of documents 1 to 4 cited in the international search report.

Namely, document 1 discloses an odor-eliminating device provided with a gas introduction port (1) (corresponding to an "air suction opening" in the invention described in claim 1; same format hereinafter), a sprayer (5) ("odor-eliminating agent supply device") for spraying an odor-eliminating liquid, a gas exhaust port (2) ("air discharge opening"), an air exhaust fan (3) ("air flow-forming device"), a filter (8) onto which the odor-eliminating agent solution droplets or mist adhere, and an odor-eliminating agent carrier filter (7) ("filter").

Further, document 2 discloses a deodorizing device provided with a gas suction intake opening (2) (corresponding to an "air suction opening" in the invention described in claim 1; same format hereinafter), a particle generator (16) ("odor-eliminating agent supply device") for spraying an odor-eliminating agent that has been formed into particulate matter, an air discharge opening ("air discharge opening"), a blower (12) ("air flow-forming means"), and a filter (7) ("filter").

Moreover, document 3 (see especially the description, page 1, line 16 to page 3, line 7, and fig. 2) discloses an odor-eliminating device provided with a suction intake port (3) (corresponding to an "air suction opening" in the invention described in claim 1; same format hereinafter), an odor-eliminating agent-spraying device (5) ("odor-eliminating agent supply device"), an exhaust port (6) ("air discharge opening"), a fan (7) ("air flow-forming means"), and an odor-eliminating agent filter (11) ("filter") for removing the odor-eliminating

agent so that no odor-eliminating agent is released outside the device, said filter comprising a porous material.

Meanwhile, document 4 discloses an odor-removing device wherein a deodorizing agent spray chamber (6) (the connection part of the spray chamber (6) corresponds to the "air suction opening" in the invention described in claim 1; same format hereinafter) is disposed in the air-exhaust system of a coating booth, and said device is provided with a deodorizing agent spray nozzle (8) ("odor-eliminating supply device"), a final outlet port (B) ("air discharge opening"), exhaust blowers (4, 17) ("air flow-forming means"), a plurality of filters (11) and a plurality of deodorizing filters (14) ("filter").

Therefore, the invention described in claim 1 is disclosed in documents 1 to 4, and thus, lacks novelty and does not involve an inventive step.

Claim 2

Claim 2 lacks novelty in the light of document 4.

Namely, the odor-removing device disclosed in document 4 is one wherein a deodorizing agent spray chamber (6) is disposed in the air-exhaust system of a coating booth, and the air suction opening of the odor-removing device can be said to open into the booth main body.

Further, claim 2 does not involve an inventive step in the light of document 1 and document 5.

A person skilled in the art could easily conceive of applying the odor-eliminating device disclosed in document 1 as the exhaust air treatment device for a coating booth disclosed in document 5.

Claims 3 and 4, claim 17

Claims 3 and 4 and claim 17 do not involve an inventive step in the light of document 1 and document 5.

Namely, document 5 discloses an exhaust air treatment device for a coating booth, wherein a moving device for conveying the collection surfaces of a pair of folding screen-shaped filters that can be moved forward/backward alternately is provided, and a feature wherein a regenerated filter (namely, a filter having a collection surface with a high collection efficiency) is moved to an exhaust flow passageway. Thus, when applying an odor-eliminating device disclosed in the documents to the treatment of the exhaust air from a coating booth, a person skilled in the art could easily conceive of providing a filter-moving device, and regenerating a filter and moving it.

Claims 3 and 7

Claims 3 and 7 do not involve an inventive step in the light of document 1 and document 6.

Namely, document 6 (see especially the claims, paragraphs [0014] and [0015], and fig. 1) discloses a device for separating foreign matter from a gaseous medium, said device being provided with a rotatable filter element (8) comprising a ring-shaped filter bed filled with carbon particles, characterized in that when separating foreign matter in gaseous or vapor phase, a liquid is sprayed on the medium caused to flow into the device, and the gas that adsorbs or vapor that condenses due to the effect of the liquid being sprayed is adsorbed onto the surface of the carbon particles comprising the filter, and is thereby removed. The odor-eliminating device disclosed in document 1 and the separating device disclosed in document 6 share the common feature of spraying a gas to be treated with a liquid treatment agent

and passing it through a filter, and thus, a person skilled in the art could easily conceive of using the liquid odor-eliminating agent disclosed in document 1 as the liquid treatment agent sprayed on the medium caused to flow into the separating device disclosed in document 6.

Claim 8

Claim 8 lacks novelty and does not involve an inventive step in the light of document 2.

Document 2 discloses a feature wherein the number of odor-eliminating agent spray particles is regulated according to the concentration of an odor component.

Claim 10

Claim 10 does not involve an inventive step in the light of document 2.

Document 2 discloses a feature wherein in order to regulate the number of odor-eliminating agent spray particles supplied according to the concentration of an odor component, regulation of an ultrasound wave generator for generating the spray particles and regulation of the gas flow rate are controlled in an interlocking manner using a damper (8). Controlling the gas flow rate using a blower instead of a damper (8) is merely the substitution of a conventional means.

Claim 12

Claim 12 lacks novelty and does not involve an inventive step in the light of document 4.

Document 4 (see especially paragraphs [0006] and [0007]) discloses activated charcoal filters and the like and a variety of chemical adhesion filters (chemical filters) as raw materials for use as a deodorizing filter (14).

Claim 13

Claim 13 lacks novelty and does not involve an inventive step in the light of document 3.

Document 3 (see especially the description, page 1, line 16 to page 3, line 7, and fig. 2) discloses an odor-eliminating device having a main body lower part (1a) provided with a suction intake port (3), an odor-eliminating agent-spraying device (5), and an odor-eliminating agent filter (11) arranged in an opening in a partition, and a main body upper part (1b) provided with a fan (7) and an exhaust port (6) and connected to the inside of the main body lower part (1a) via the filter (11), and the main body lower part (1a) and the main body upper part (1b) correspond respectively to the first housing unit and the second housing unit in the invention described in claim 13.

Claim 14

Claim 14 does not involve an inventive step in the light of document 3.

When performance of a treatment in a single stage is insufficient, designing a device in multiple stages so that the same treatment is performed a plurality of times is merely standard practice in device design.

Claim 15

Claim 15 does not involve an inventive step in the light of document 3 and document 7.

Document 7 discloses a coating device having an exhaust gas-purifying device, wherein recirculation of an exhaust gas that passes through a purifying process and then exits a droplet-removing means (8) comprising an eliminator or a filter provides the same effect as using a plurality of stages of a dust-collecting means. This recirculation of a treated exhaust gas is known in the

art, and thus, a person skilled in the art could, as needed, appropriately adapt the odor-eliminating device disclosed in document 3 so that the air exhausted from the exhaust port (6) is recirculated.

Claim 16

Claim 16 lacks novelty and does not involve an inventive step in the light of document 1.

Document 1 discloses a feature wherein an odor-eliminating agent which is a dry distillation component of a plant of the Theaceae family eliminates odors by directly trapping an odor component.

Claim 21

Claim 21 does not involve an inventive step in the light of document 1 and document 2.

Document 2 discloses a feature wherein the number of odor-eliminating agent spray particles supplied is regulated according to the concentration of an odor component, and thus, a person skilled in the art could easily conceive of using an odor-eliminating agent having an effect of capturing an odor component by adhesion, as disclosed in document 1, in the odor-eliminating method disclosed in document 2.

Claims 5 and 6, 9, 18 to 20, and 22 to 26

The inventions described in claims 5 and 6, 9, 18 to 20, and 22 to 26 are not disclosed in any of the documents cited in the international search report, and thus, are novel and involve an inventive step. In particular, none of the documents discloses a feature wherein the amount of odor-eliminating agent and odorous substance collected using a collection surface is calculated, and the amount the collection surface is moved is changed according to the calculated collected amount, or a feature wherein the

amount of an odor-eliminating agent that should be supplied is calculated according to the operating status of a coating device, and the amount of odor-eliminating agent supplied is regulated according to the calculated supply amount, or a feature wherein the amount of an odor-eliminating agent and an odorous substance contained in a gas is calculated, and the amount of gas that should be drawn into a filter is regulated according to the calculated amount of the odor-eliminating agent and the odorous substance.